

11) Publication number: 0 501 808 A3

(12)

## EUROPEAN PATENT APPLICATION

(21) Application number: 92301680.2

② Date of filing: 27.02.92

(5) Int. Cl.<sup>5</sup>: **H04B 7/26**, H04B 7/02, H04Q 7/04

(30) Priority: 27.02.91 JP 57969/91

Date of publication of application: 02.09.92 Bulletin 92/36

84 Designated Contracting States : DE FR GB

Bate of deferred publication of search report: 02.06.93 Bulletin 93/22

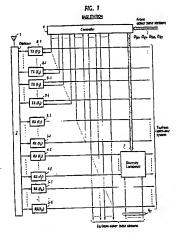
71 Applicant: NEC CORPORATION 7-1, Shiba 5-chome Minato-ku Tokyo 108-01 (JP) 72) Inventor: Hamabe, Kojiro
c/o NEC Corporation, 7-1, Shiba 5-chome,
Minato-ku
Tokyo (JP)
Inventor: Furuya, Yukitsuna
c/o NEC Corporation, 7-1, Shiba 5-chome,
Minato-ku
Tokyo (JP)
Inventor: Kanai, Toshihito
c/o NEC Corporation, 7-1, Shiba 5-chome,
Minato-ku
Tokyo (JP)
Inventor: Taketsugu, Masanon
c/o NEC Corporation, 7-1, Shiba 5-chome,
Minato-ku
Minato-ku

74 Representative : Orchard, Oliver John JOHN ORCHARD & CO. Staple Inn Buildings North High Holbom London WC1V 7PZ (GB)

(54) Cellular mobile communications system using frequencies commonly shared by neighboring cells for handoff operations.

Tokyo (JP)

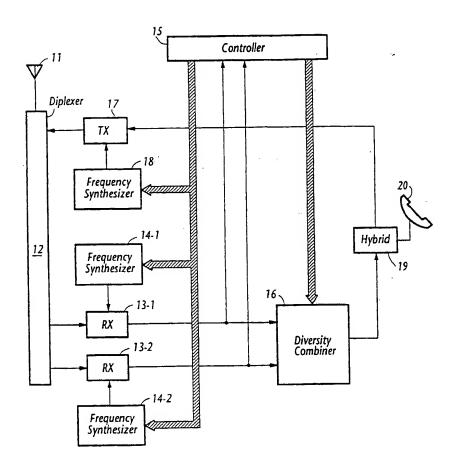
(57) In a cellular mobile communication system, each base station is allocated common frequencies shared with other base stations in addition to unique frequencies. One of the unique frequencies is assigned by a base station to a mobile terminal in response to a call request. The field strength of a signal from that mobile terminal is detected and one of the common frequencies is assigned to it if the detected field strength becomes lower than a threshold. The base station receives afield strength signal from a neighboring station indicating the field strength of a version of the signal at the neighboring station and compares it with a threshold, and combines the signal of that mobile terminal with the version of the signal received by an relayed from the neighboring station when the field strength of that version of the signal is higher than the threshold. At the given mobile station, a signal from the base station which assigned the common frequency is combined with a signal from the neighboring station. In a modification, the field strength of signals from surrounding base stations is detected by mobile terminals and a start-of-diversity-mode request is transmitted when the field strength of one of the surrounding stations is higher than a threshold and an end-of-diversity-mode request signal is transmitted when the field strength of such a surrounding station is lower than the threshold. The base station responds to these requests for effecting diversity reception.



Jouve, 18, rue Saint-Denis, 75001 PARIS

FIG. 2

## **MOBILE STATION**





## EUROPEAN SEARCH REPORT

Application Number

EP 92 30 1680

	DOCUMENTS CONSIDE			THE STREET	
ategory	Citation of document with indic	stion, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. CLS.)	
	US-A-4 144 411 (FRENK * column 9, line 67 - * column 15, line 43 figures 6,712,13 *	TEL)	1,2,4,5	H04B7/26 H04B7/02 H04Q7/04	
<b>A</b>	40TH IEEE VEHICULAR T May 1990, ORLANDO, US pages 220 - 225 ITO 'A Proposal of Ti Time-Compressed Multi Radio System' * page 225, paragraph	me-Division, plexing FM Mobile	1,2,4,5		
A	EP-A-0 347 396 (ERICS * page 11, line 60 -	SSON) page 15, line 17 *	1,2,4,5		
				TECHNICAL FIELDS SEARCHED (Int. Cl.5)	
				H04Q H04B	
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	The present search report has b		<u> </u>		
-	Place of search Date of completion of the search			TANVCZEV 1 M	
ĝ	THE HAGUE	18 MARCH 1993		JANYSZEK J.M.	
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0 0 P	A : technological background O : non-written disclosure P : intermediate document		& : member of the same patent family, corresponding document		